

AMENDMENTS

In the Claims:

Please amend the claims as indicated hereafter.

1. (Currently Amended) A system for automatically cropping graphical images, comprising:
 - memory for storing digital data that defines a graphical image captured by said system;
 - an object detector configured to perform a search of said digital data for an object of a particular type ~~and to automatically identify, based on said search, a portion of said digital data that defines an image of an object of said particular type within said graphical image;~~ and
 - an image cropper configured to automatically ~~perform a cropping operation on said graphical image~~ identify, based on said search, at least one object of said particular type within said graphical image as an object of interest based on a position of said at least one object image within said graphical image, said image cropper configured to determine said position of said object image within said graphical image based on said portion automatically identified by said object detector, wherein said cropping operation performed on said graphical image is image but not based on any other graphical image captured by said system, said image cropper further configured to automatically perform a cropping operation on said graphical image such that said at least one object identified as an object of interest is moved closer to a center of said graphical image.

2. (Currently Amended) The system of claim 1, wherein said at least one object image is an image of a person's face, and wherein said object detector is configured to search said digital data for facial images.

3. (Currently Amended) The system of claim 1, wherein said cropping operation is based on a size of said at least one object image.

4. (Currently Amended) The system of claim 1, wherein said cropping operation is ~~based on said position of said object image~~ performed such that said at least one object image is substantially centered between two edges of said graphical image.

5. (Currently Amended) A system for automatically cropping graphical images, comprising:

memory for storing digital data that defines a graphical image;

an object detector configured to analyze said digital data and to automatically identify a graphical object within said graphical image; and

an image cropper configured to make a determination as to whether said graphical object is close to an edge of said graphical image and to automatically identify, based on said determination, a position of said graphical object within said graphical image, said graphical object as an object to be removed from said graphical image and to automatically crop said digital data based on said determination such that said graphical object is removed from said graphical image.

6. (Original) The system of claim 1, further comprising:

an input device for receiving an input from a user; and

a system manager configured to enable said image cropper based on said user input.

7. (Original) The system of claim 1, further comprising an image capturing device configured to receive an image of a scene and to produce said digital data based on said image received by said image capturing device.

8. (Original) The system of claim 7, wherein said image capturing device includes a lens for receiving said image of said scene and an image converter for producing said digital data based on said image of said scene.

9. (Currently Amended) A system for automatically cropping graphical images, comprising:

means for capturing graphical images;

memory for storing digital data that defines a graphical image captured by said capturing means;

~~means for performing a search of~~ searching said digital data for an object of a particular type ~~and for automatically identifying, based on said search, a portion of said digital data that defines an image of an object of said particular type within said graphical image;~~ and

means for automatically cropping said graphical image, said cropping means configured to automatically identify, based on said searching means, at least one object of said particular type within said graphical image as an object of interest by performing a cropping operation based on a position of said at least one object image within said graphical image, said cropping

~~means configured to determine said position of said object image within said graphical image based on said portion automatically identified by said identifying means, wherein said cropping operation is image but~~ not based on any other graphical image captured by said capturing means, said cropping means configured to crop said graphical image such that said at least one object identified as an object of interest is moved closer to a center of said graphical image.

10. (Currently Amended) The system of claim 9, wherein said at least one object image is an image of a person's face, and wherein said ~~identifying~~ searching means is configured to search said digital data for facial images.

11. (Currently Amended) The system of claim 9, wherein said cropping ~~operation is~~ means crops said graphical image based on a size of said at least one object image.

12. (Currently Amended) The system of claim 9, wherein said cropping ~~operation is~~ based on said position of said object image crops said graphical image such that said at least one object image is substantially centered between two edges of said graphical image.

13. (Cancelled)

14. (Original) The system of claim 9, further comprising:
means for receiving an input from a user; and
means for enabling said cropping means based on said user input.

15. (Original) The system of claim 9, further comprising a means for receiving an image of a scene and for producing said digital data based on said image received by said receiving means.

16. (Currently Amended) A method for automatically cropping graphical images, comprising ~~the steps of:~~

capturing a graphical image;

storing digital data that defines said graphical image;

automatically searching said digital data for an object of a particular type;

automatically identifying, based on said searching, step, a portion of said digital data that defines an image of an at least one object of said particular type as an object of interest based on a position of said at least one object within said graphical image but not based on any captured image other than said graphical image; and

~~determining, based on said identified portion, a position of said object image within said graphical image; and~~

automatically cropping said graphical image based on said ~~position of said object image,~~
~~wherein said cropping step is not based on any captured image other than said graphical image~~
identifying such that said at least one object identified as an object of interest is substantially centered between at least two edges of said graphical image.

17. (Currently Amended) The method of claim 16, wherein said at least one object ~~image~~ comprises an image of a person's face.

18. (Currently Amended) The method of claim 16, wherein said cropping ~~[[step]]~~ is further based on a size of said at least one object ~~image~~.

19-20. (Cancelled)

21. (Currently Amended) The method of claim 16, wherein said searching and cropping ~~[[steps]]~~ are automatically performed in response to said storing ~~[[step]]~~.

22. (Currently Amended) The method of claim 16, further comprising ~~the steps of~~:
receiving an input from a user; and
enabling said cropping ~~[[step]]~~ based on said user input.

23-25. (Cancelled)

26. (Previously Presented) The system of claim 5, wherein said graphical object is an image of a face.

27. (Currently Amended) The method of claim 16, further comprising ~~the step of~~
enabling a user to select the type of automatic cropping to be performed in said cropping ~~[[step]]~~.

28. (Currently Amended) The method of claim 16, further comprising ~~the step of~~
making a determination as to whether said at least one object ~~image~~ is a facial image, wherein said cropping ~~[[step]]~~ is based on said determination.

29. (Cancelled)

30. (Currently Amended) A system for automatically cropping graphical images, comprising:

an image capturing device configured to capture graphical images;

memory for storing digital data that defines a graphical image captured by said image capturing device;

an object detector configured to ~~make a determination as to whether a portion of said digital data defines a facial image~~ automatically detect a face within said graphical image; and

an image cropper configured to make a determination as to whether said face is within a particular region of said graphical image and to automatically identify said face as an object of interest based on said determination if said face is within said particular region, said image cropper further configured to automatically perform a cropping operation on said graphical image ~~based on said determination~~ such that said face is moved closer to a center of said graphical image if said face is determined to be an object of interest, wherein said cropping operation is not based on any image captured by said image capturing device other than said graphical image.

31. (Cancelled)

32. (Currently Amended) The system of claim 30, wherein said object detector is further configured to detect a second face in said graphical image, and wherein said image cropper is configured to perform said cropping operation such that said ~~facial image~~ second face is removed from said graphical image.

33. (Currently Amended) A method for automatically cropping graphical images, comprising ~~the steps of:~~

storing digital data that defines a graphical image;

detecting a plurality of faces within said graphical image;

determining an extent that at least one of said faces is from a center region of said graphical image;

automatically identifying, based on said determining, said at least one of said faces ~~face~~ as an object of interest based on a position of said at least one facial image if said at least one face is within or close to said center region; and

automatically cropping said graphical image based on said identifying ~~selecting step~~ such that said at least one face is substantially centered within said graphical image.

34. (Cancelled)

35. (Currently Amended) The method of claim 33, wherein said cropping ~~[[step]]~~ comprises ~~the step of removing, from said graphical image, at least one of said faces that is not selected in said selecting step~~ identified as an object of interest.

36. (Currently Amended) A method for cropping a graphical image, comprising the steps of:

detecting a plurality of faces in the graphical image;

~~automatically cropping the graphical image; and~~

determining if at least one of the faces is close to a center of the graphical image; ~~image~~

~~prior to said cropping step,~~

automatically selecting one of the faces to remain in the graphical image and one of the faces for removal from the graphical image based on the determining; and

automatically ~~wherein said~~ cropping step is the graphical image based on said ~~determining step~~ selecting such that the face selected for removal is removed from the graphical image.

37. (Currently Amended) The method of claim 36, further comprising ~~the step of~~ determining a location in the graphical image of each of the plurality of faces.

38. (Currently Amended) The method of claim 36, wherein the ~~step of~~ cropping the graphical image comprises positioning one of the plurality of faces closer to the center.

39. (Currently Amended) The method of claim 36, wherein the cropping is performed such that said face selected to remain in the graphical image is moved ~~if one face of the plurality of faces is close to the center, then cropping the graphical image to move the one face closer to the center.~~

40-43. (Cancelled)

44. (Currently Amended) A method for cropping a graphical image, comprising the steps of:

detecting a face in a digital image of a picture; and

automatically cropping the digital image based on a size of the face relative to the digital image,

wherein the automatically cropping further comprises ~~the step of~~ moving the face away from a center of the picture.

45-46. (Cancelled)

47. (Currently Amended) A system for automatically cropping graphical images, comprising:

memory for storing digital data that defines a graphical image;

an object detector configured to detect a plurality of objects of a particular type within said graphical image ~~based on a position of said at least one object~~; and

an image cropper configured to make a determination as to whether at least one of said objects is close to a center of said graphical image and to automatically identify, based on said determination, said at least one of said detected objects ~~object~~ as an object of interest if said at least object is located close to said center, said image cropper further configured ~~based on a position of said at least one detected object within said graphical image~~ and to crop said graphical image such that said at least one object is substantially centered within said graphical image.

48. (Previously Presented) The system of claim 47, wherein said objects of a particular type are facial images, and wherein said object detector is configured to search said graphical image for facial images to detect said objects of said particular type.

49. (Previously Presented) The system of claim 47, wherein said image cropper is configured to automatically remove at least one of said detected objects that is not identified as an object of interest by said image cropper.

50. (Cancelled)

51. (Currently Amended) A method for automatically cropping graphical images, comprising:

detecting an object within said graphical image;

determining whether ~~[[that]]~~ said object is close to an edge of said graphical image;

selecting said object for removal from said graphical image based on said determining if said determining indicates that said object is close to said edge; and

automatically removing said object from said graphical image based on said ~~determining~~ selecting.

52. (Previously Presented) The method of claim 51, wherein said object is a face and said method further comprises searching said graphical image for facial images.

53. (Currently Amended) The method of claim 51, further comprising displaying said graphical image after said removing.

54. (Previously Presented) A method for cropping a graphical image, comprising:
detecting a face in a digital image of a picture; and
automatically cropping the digital image based on a position of the face within the
digital image,
wherein the automatically cropping further comprises moving the face away from a
center of the picture.

55. (Cancelled)

56. (New) The system of claim 1, wherein said image cropper is configured to identify
said at least one object as an object of interest based on whether said at least one object is
located close to a center of said graphical image.

57. (New) The method of claim 16, further comprising determining an extent that said
at least one object is from a center region of said graphical image, wherein said identifying is
based on said determining.